

## Product Data Sheet

### Protease Powder SEB

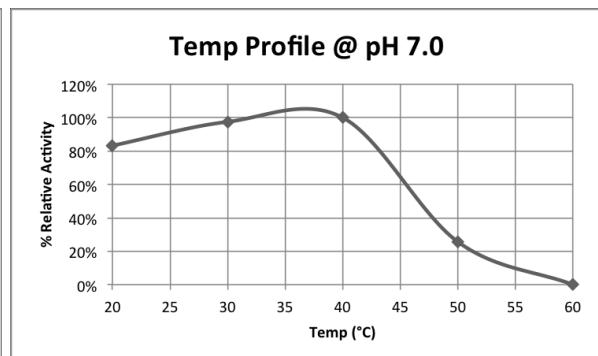
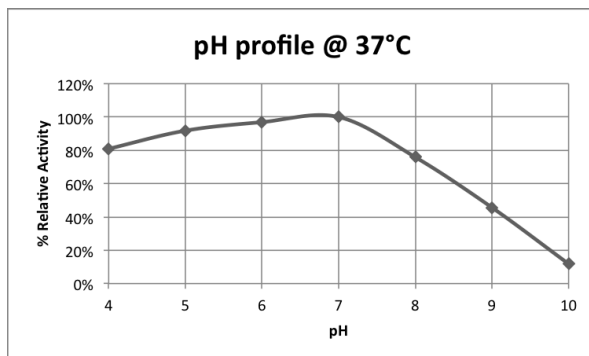
#### Description:

**Protease Powder SEB** is a food grade endo-peptidase and tannase preparation produced by controlled fermentation of selected strains of *Aspergillus niger* and *Aspergillus oryzae*.

**Protease Powder SEB** is Kosher-certified, Halal-certified, non-synthetic and bio-degradable.

#### Product Properties:

- Form: light brown coloured powder
- Active Ingredient: endo-peptidase, tannase
- Declared Activity: 5 PEPU/g, 50 TNU/g
- Solubility: readily soluble in water at all concentrations in normal usage



#### Working Principle:

**Protease Powder SEB** is a highly specific endo-peptidase which cleaves only proline residues from the carboxyl end of polypeptides. These haze-forming polypeptides are hydrolysed by **Protease Powder SEB**, thus preventing chill haze. The tannase in **Protease Powder SEB** catalyses the hydrolysis of ester and depside bonds in hydrolysable tannins or gallic acid ester, liberating glucose and gallic acid.

### **Applications & Benefits:**

**Protease Powder SEB** prevents the precipitation of protein-polyphenol complexes which lead to haze-formation in beer during cold storage. The specificity of the **Protease Powder SEB** ensures that no other beer parameters are affected. **Protease Powder SEB** reduces haze in the finished beer and extends the shelf life of beer. With the addition of **Protease Powder SEB** during fermentation, brewers can increase savings by reducing or removing cold stabilization step and also by replacing synthetic stabilizing agents like silica gel and polyvinylpolypyrrolidone (PVPP). **Protease Powder SEB** helps brewers to produce clear beer with good foam and flavour stability.

### **Dosing Recommendations:**

The recommended dosage range of **Protease Powder SEB** is in the range of 0.6 – 2.5 gm / HL wort at the beginning of fermentation. The actual dosage needs to be optimized depending upon factors such as grist composition, specific gravity of the wort, shelf life required and pH of the wort. We recommend customers to carry out adequate trials before arriving at final dosages.

### **Quality Specifications:**

**Protease Powder SEB** is food grade enzyme and complies with the recommended purity specifications for food-grade enzymes given by the Joint FAO/WHO Expert Committee on Food Additives (JECFA) and the Food Chemical Codex (FCC). **Protease Powder SEB** is manufactured under a quality management system consistent with International Quality System Standard ISO 9001:2008.

### **Packaging:**

**Protease Powder SEB** is available in 500g, 1kg, 2.5kg and 5kg.

### **Storage:**

**Protease Powder SEB** should be stored in a cool, dry place. Storage in unopened containers, at or below 5°C, helps to maintain maximum activity if stored over long periods. Shelf life: 24 months.

### **Safety & Handling Precautions:**

Enzymes are proteins. Inhalation of dust or aerosols may induce sensitization and may cause allergic reactions in sensitized individuals. Some enzymes may irritate the skin, eyes, and mucous membranes upon prolonged contact. Avoid unnecessary contact with the product and inhalation of any aerosols or dust particles. In case of spillage or contact with the eyes or skin, rinse the affected area promptly with plenty of water. All spills, however minor, should be removed immediately. Use respiratory protection. Major spills should be carefully shovelled into plastic-lined containers. Minor spills and remains of major spills should be removed by vacuum cleaning or flushing with water (avoid splashing). Wash contaminated clothes.