



Product Information Sheet

Cellulase HC-190K

An *Enzyme Supplies* thermostable hemicellulase preparation for the alcohol, bio-ethanol, and brewing industries.

INTRODUCTION

Cellulase HC-190K is an enzyme preparation for the reduction of viscosity in cereal mashes. Hemicellulose is degraded to low molecular weight, water soluble fragments which have greatly reduced water binding capacity.

- IUB-No. 3.2.1.8
- CAS-No. 9025-56-3

This product complies with the recommended specifications of the FAO/WHO joint expert committee on food additives (JECFA), and the food chemicals codex (FCC) for food-grade enzymes.

ENZYME PROPERTIES

Cellulase HC-190K has an optimum pH range of 5.5-8.0 (effective range 5.0-8.0). The enzyme has an optimum temperature range of 60°C to 70°C, with an effective range from 50°-80°C.

TYPICAL CHARACTERISTICS

Activity minimum 190,000 TXU/g
Appearance – brown liquid with a characteristic odour
Bulk density 1.10-1.15g/ml
Fully water soluble

APPLICATION SCOPE

Cellulase HC-190K is used in the production of alcohol, bio-ethanol, and in the brewing industry.

- **Distillation/Biofuel:** Cellulase HC-190K is used at the liquefaction stage of highly concentrated mashes and reduces the viscosity of the grain mash by acting on the non-starch polysaccharides. This allows the greater use of grain and the lower use of water in the plant. The main benefits are an improved fermentation process and increased ethanol yield. Typical dose 50-150ml/tonne raw material (rye and wheat mash – dose may vary for other raw materials).
- **Brewing:** Cellulase HC-190K is used for brewing with high original wort to improve lautering. The degradation of arabino-xylans by Cellulase HC-190K, results in viscosity reduction and improved mash filtration. The enzyme can also compensate for varying raw material quality and consistency (dose rate for first trials 25-75ml/tonne raw material barley and wheat, is recommended). The lower dose is recommended to avoid blocking of the filter cake if lauter tubs are used.

PACKAGING

Cellulase HC-190K is available in bulk containers or 25Kg 'non-toxic' plastic barrels

STORAGE STABILITY

To maintain optimum activity, Cellulase HC-190K should be stored at moderate temperatures (below 25° C), in the original containers and with the lid closed. When stored at temperatures below 25°C, the activity loss will be less than 10% in 6 months. At temperatures below 10°C, the activity loss will be less than 10% in 1 year.

SAFETY AND ENZYME HANDLING

Inhalation of aerosols from liquid enzymes should be avoided. Open in a well-ventilated environment. In case of contact with skin/eyes, promptly rinse with water for at least 15 minutes. Clean any spillages with low-pressure water hoses, avoiding the formation of aerosols. For more detailed information please refer to the Material Safety Data Sheet for this product.

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