



## Penicillin G Amidase Biocatalyst (PGAB-N)

- Introduction** : Biocatalytic synthesis of beta lactam and cephalosporin intermediates is an established technology based on immobilized penicillin G amidase (PGA).  
As a pioneer in PGA, Fermenta Biotech Ltd (FBL), continuously improves the product to suit the growing needs, both in enzymatic hydrolysis and enzymatic synthesis of  $\beta$ -lactam and cephalosporins (e.g. 6-APA, 7-AVCA, Amoxicillin, Cephalexin etc.)
- Product Type** : **FERMASE NA™ 150** is a highly cross linked enzyme preparation of Penicillin G Amidase from highly active E.coli cells, free of lactamase activity, supplied as insoluble, wet aggregates with suitable preservative.
- Color** : Brownish or dark brown aggregates irregularly shaped with defined particle size distribution. The color may vary from batch to batch and the color intensity is not an indication of the product quality.
- Particle Size** : 100-500  $\mu$ m > 98.0%.
- Activity** : NLT 800 U per gram dry weight.
- Unit definition** : Amount of enzyme catalyzing the formation of one micromole of 6-Aminopenicillanic acid at 37° C, pH 8.0 at 2 % (w/v) Penicillin G potassium salt initial concentration, in the milieu of 50 mM of Sodium Phosphate buffer, within the range of zero order kinetics.
- Dry weight** : 14-16 %.
- Method of drying** : Dried at 105° C, for 180 minutes or by using moisture balance for 20 - 30 minutes.
- Application** : Enzyme mediated antibiotic synthesis e.g. Amoxicillin, Cephalexin.
- Process characteristics**
- |                      |                     |
|----------------------|---------------------|
| Technology status    | : Lab scale process |
| Reaction pH          | : 6.5-7             |
| Reaction temperature | : 25-30°C           |
| Reaction media       | : Water             |
| Hazard chemistry     | : Nil               |
- Advantages** :
- ◆ Very high specific activity
  - ◆ Very high selectivity and precision
  - ◆ High operational stability
- Storage & Product Stability** : Cool and dry conditions are recommended for storage. The recommended temperature for storing is between 2- 5o C. When stored under these conditions, the product will maintain its declared activity for at least 12 months.
- Safety** : **FERMASE NA™ 150** is very safe to handle as it does not generate any aerosols. However, avoid raising dust. Avoid contact with skin and eyes. Take up the spilled dust by mechanical means. Avoid forming aerosols, wash contaminated clothing & ensure sufficient ventilation.

MANUFACTURED BY :  
**FERMENTA BIOTECH LTD.**