

## Depol™ 40L - D040L

- Broad spectrum endo-carbohydrase
- Maceration of botanical tissue
- Increased flavour extraction
- Alternative to solvent extraction
- Active over wide pH range

Depol™ 40L is a broad spectrum carbohydrase containing enzymes active against carbohydrate polymers. Many micro-organisms produce a range of such enzymes which enable them to extract nutrients from their environment.

Usually these nutrients come from botanical tissues and thus enzymes produced by these organisms are particularly useful for degrading such tissue.

This particular preparation contains, in addition to the macerating activities, a wide range of exo-glycosidases. These activities are particularly useful in releasing active flavours from their bound inactive forms.

This preparation allows a more efficient extraction of valuable plant components, increasing the extracted yield of flavours.



### SPECIFICATION

Activity	1200 Cellulase units/gram 800 Endogalactouronase units/gram
Biological Source	<i>Trichoderma/Aspergillus spp</i>
Form	Brown liquid
Working pH	4.5 - 5.5
Temperature range	40 - 60°C

sheet no: 001/2

issue date: 28:04:09



## APPLICATION & DOSAGE

### Enzyme Assisted Vanilla Extraction

The material to be extracted should be dispersed as finely as possible. Water or aqueous alcohol (5-15%) should be added. The mixture should be acidified to a pH of 4.0 to 5.5 and the temperature adjusted to 40 - 60°C. Depol™ 40L should be added at 0.75 - 2 % based on dry matter content followed by incubation with agitation for between 3 -16 hours. The exact time will depend on the material being extracted and amount of enzyme dosed. In trials samples can be removed at periodic intervals to determine the effectiveness. If the enzyme reaction has been performed in the absence of ethanol then ethanol may be added at this stage, before allowing the reaction to proceed for a further 30 minutes. At the appropriate time the solids can then be separated. Precipitants might then be used to separate non valuable components, eg alcohol can be used in extraction of vanillin. Oil soluble flavours can be further extracted from the supernatant using an edible oil.

### HEALTH AND SAFETY

Always read the Health and Safety sheet (MSDS) before use and retain. If you are in any doubt about recommended product handling and safety, please contact Biocatalysts before use. Generally, when using enzymes avoid contact with the skin and eyes and do not breathe dusts or aerosols containing them.

### STORAGE

Activity will remain above the minimum analysis specification for at least 6 months from the date of the Batch Certificate of Analysis, when stored below 20°C.

### ALLERGENS

Lactose is used as a fermentation substrate.

### FOOD STATUS

Prepared from enzymes of GRAS status and manufactured to FCC/JECFA/WHO/FAO recommendations for enzymes used in food processing.

### QUALITY

#### 1. Food Safety Policy

The company operates a Hazard Analysis at Critical Control Points (HACCP) system. This ensures that ingredients and the production environment are regularly monitored for contamination and that the processes are designed to produce safe products every time.

#### 2. Good Manufacturing Practice (GMP)

The company's integrated management system encompasses Total Quality, Health and Safety, Food Safety and GMP.

#### 3. ISO9001

Biocatalysts Ltd is certified to BS ISO9001: 2000. Regular Audits are carried out by the British Standards Institute (BSI) to ensure continuing compliance with the standard.

### AVAILABILITY

Liquids: standard 25kg nett plastic jerry cans.  
Non-standard quantities of 5kg, 215kg and 1000kg are also available for some products, please enquire.

The production micro-organism used in this product is not a GMO. Within the proposed guidelines of the European Union regarding Genetically Modified products, the above product would be classed as GMO free.

