

# Depol<sup>®</sup> 40L

## D040L

### Features/Benefits

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

**Depol<sup>®</sup> 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                  | 1,200 U/g Cellulase<br>800 U/g PG (Endogalactouronase) |
| Biological Source         | <i>Trichoderma</i> sp. <i>Aspergillus</i> sp.          |
| Form                      | Brown liquid   |
| Optimum pH Range          | 4.0 – 6.0  |
| Optimum Temperature Range | 40 - 60°C  |

### Application & Dose (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<sup>®</sup> 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, e.g., alcohol can be used in extraction of vanillin. Oil soluble flavours can be further extracted from the supernatant using an edible oil.

### Health & Safety

Always read the Material Safety Datasheet (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. MSDSs are available in other languages. Please contact Customer Services.

### Storage

Liquids: Activity will remain within specification for at least 6 months from the date of manufacture when stored at 0 - 20°C.

### Allergens

Refer to allergen statement.

### Food Status

Material complies with the JECFA/FAO/WHO and FCC recommended specifications for enzymes used in food processing.

### GM Status

This product has been manufactured using a fermentation process of a microbial organism that has not been altered using modern biotechnology. This product does therefore not require labelling as GMO on food labels.

### Quality & Food Safety

Biocatalysts operates a preventative risk-based Food Safety System that ensures the environment and processes are designed to produce safe products every time. FSSC22000 and FSMA compliant.

Compliance - The Company's integrated management system encompasses Quality, Food Safety, Health and Safety and GMP.

Certificates are available on request from the Customer Services Department.

### Availability

Liquids: standard 25kg net plastic jerry cans. Non-standard quantities are also available for some products, please enquire.