

Product Data Sheet

ROHALASE® BXL

Rev. No.: 10
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DESCRIPTION

ROHALASE® BXL is a fungal beta-glucanase enzyme preparation for hydrolysing non-starch polysaccharides. ROHALASE® BXL comprises beta-1.3- and beta-1.6-glucanase activities for degrading plant cell wall polysaccharides as well as proteolytic background activity.

PROPERTIES

| | |
|-------------------|---------------------------|
| Declared enzyme | Glucanase (beta) |
| Declared activity | 2,500 LAM/g |
| Production strain | <i>Trichoderma reesei</i> |
| IUB number | 3.2.1.6 |
| CAS number | 62213-14-3 |
| Physical form | Liquid |
| Color | Clear brown |
| Density | 1.1-1.2 |

Color and appearance may vary from batch to batch. Color intensity is not an indication of enzyme activity.

APPLICATION AND BENEFITS

ROHALASE® BXL contains enzymes for degrading beta-glucans and other non-starch polysaccharides.

In **winemaking**, the enzyme is particularly suited for:

- Enhancing the filtration of wines that are produced from *Botrytis*-infected grapes, significantly improving clarification and filtering.
- Sur lie technology, because the beta-glucanases and proteases enhance yeast lysis. It is recommended to apply the enzyme either in the yeasty young wine, or in the yeast lees.
- Regenerating the filter aids or cleaning the cross-flow membranes.

DOSAGE

The dosage of the enzyme depends on the raw materials used and reaction conditions such as pH, temperature, and time.

The optimal dosage should be determined in trials.

pH range: 3.0-7.0
Temperature range: 35-70°C

For initial trials, typical dosages are:

- Filtration: 4-12 g/hl, 18-24°C for 2-4 weeks.
- Sur lie: 20-80 g/hl, 16-22°C for 4-8 weeks.
- Regeneration of filter aids, and membrane cleaning: 200-500 g/m³, 40-50°C for 1-2 hr.

PRODUCT COMPOSITION

Water, glycerol (q.s.), saccharose, beta-glucanase, ammonium sulphate (q.s.).

| Constituent | Amount in % |
|--------------------|-------------|
| Enzyme concentrate | 9-11 |
| Glycerol | 30 |
| Saccharose | 20 |
| Ammonium sulphate | 2.5 |
| Water | Remainder |

GMO STATUS

ROHALASE® BXL and its constituent enzyme are not genetically modified.

The enzyme component is produced by fermentation of a microorganism that is not genetically modified. The microorganism is removed and not present in the final product.

Only agricultural raw materials of non-GM origin are used for the fermentation processes and final formulation.

STORAGE CONDITIONS AND SHELF LIFE

Recommended storage: Store cool below 10 °C.
The best before date is displayed on the certificate of analysis and product label.

The product should be used within 18 months of the production date. Thereafter, reanalysis is recommended.

PACKAGING

| | | |
|---------|--------------|---------------|
| SAP no. | Package size | Material |
| 11227 | 25 kg | PE canister |
| 12143 | 1000 kg | IBC container |

Palletized with 24 units per pallet (dimensions 120x80x110 cm).

The packaging is in conformity with the requirements for raw materials used in the packaging of foods as defined by the Commission Directives (EU) and FDA (USA) regulations.

COMPLIANCE AND LEGAL STATUS

Our enzyme products are used as processing aids in the food manufacturing process and are thus free from any labelling provisions in the European Union.

The product does not fall within the scope of EU regulations (EC) 1829/2003 and (EC) 1830/2003 on genetically modified food and feed.

The product fulfils the purity specifications of the Joint FAO/WHO Expert Committee on Food Additives (JECFA) and Food Chemicals Codex (FCC) for food-grade enzymes.

ROHALASE® BXL is approved in all EU member states, except of Denmark. Advice on the legal status for other countries is available upon request.

SPECIAL DIET INFORMATION

| | |
|---|---|
| Kosher | Certified |
| Halal | Certified |
| Vegans (Ovo)-(Lacto)- Vegetarians | We guarantee that no raw materials or processing aids derived from animal origin except of lactose were utilized, and that all other formulation components of the enzyme product are not of animal origin. |

Certificates are provided upon request.

ALLERGENS

| Ingredients referred to in Article 9, Article 21 and Annex II of Regulation (EU) No 1169/2011 | Present (as added component) (Yes/No) | Remark |
|---|---------------------------------------|--|
| Cereals containing gluten ¹⁾ | No | As processed on equipment that also processes wheat flour, the product may contain traces of gluten. |
| Crustaceans and products thereof | No | |
| Eggs and products thereof | No | |
| Fish and products thereof | No | |
| Peanuts and products thereof | No | |
| Soybeans and products thereof | No | |
| Milk and products thereof (including lactose) | No | Lactose used as RM in fermentation. The product may contain traces of lactose. |
| Nuts ²⁾ | No | |
| Celery and products thereof | No | |
| Mustard and products thereof | No | |
| Sesame seeds and products thereof | No | |
| Sulphur dioxide and sulphites at concentrations of more than 10 mg/kg or 10 mg/l expressed as SO ₂ | No | |
| Lupine and products thereof | No | |
| Molluscs and products thereof | No | |

¹⁾ i.e., wheat, rye, barley, oats, spelt, kamut

²⁾ i.e., almond, hazelnut, walnut, cashew, pecan, Brazil nut, pistachio, macadamia, and Queensland nut

NUTRITIONAL VALUES

Typical calculated values per 100 g

| | |
|--------------------|--------|
| Energy | 992 kJ |
| Total fat | <1 g |
| Saturated fat | 0 g |
| Total carbohydrate | 51 g |
| Sugars | 20 g |
| Added sugars | 20 g |
| Protein | 4 g |
| Salt | 0 g |
| Potassium | 55 mg |
| Minerals | 3 g |
| Vitamin D | 0 mg |

PURITY CRITERIA

| | |
|----------------------|------------------|
| Total viable count | < 50,000 / g |
| Coliforms | < 30 / g |
| E. coli | absent in 25 g |
| Salmonella | absent in 25 g |
| Antibiotic activity | negative by test |
| Heavy metals (as Pb) | < 30 mg / kg |
| Arsenic | < 3 mg / kg |
| Lead | < 5 mg / kg |
| Cadmium | < 0.5 mg / kg |
| Mercury | < 0.5 mg / kg |

CERTIFICATION

AB Enzymes GmbH and its production site ROAL Oy have a certified quality management system according to ISO 9001:2015 and HACCP. AB Enzymes complies with the "Guidance on Social Responsibility" ISO 26000:2010 standard.

ROAL Oy in Finland holds ISO 9001:2015 quality management, ISO 50001:2011 energy management, and ISO 14001:2015 environmental management certification.

In addition, Food Safety Management System certification according to FSSC 22000 is in place and reviewed in regular audits.

SAFETY AND HANDLING

Avoid unnecessary contact with enzyme preparations when handling, and avoid the formation of aerosol and dust of the product. Repeated inhalation of enzyme aerosol or dust may cause sensitization, or allergic type reactions in sensitized individuals.

For further details on the safe handling of our products, please consult our Safety Data Sheet.