



# ENDOZYM<sup>®</sup> ICS 10 Rouge

Enzymatic preparation for colour extraction



## → TECHNICAL DESCRIPTION

**Endozym ICS 10 Rouge** is a complete enzymatic preparation, which combines its pectolitic properties with a high cellulosic and hemicellulosic activity.

The multiplicity of its enzymatic action results in maximum extraction of the colouring matter and varietal aromas from red grapes. Its use ensures the production of qualitatively more structured and complex wines and also increases free run juice yield.

Its liquid form enables a faster and more effective homogenization on the pomace, thus saving time during cellar operations.

## → COMPOSITION AND TECHNICAL CHARACTERISTICS

Enzymatic activity	Activity/g
PL (U/g)	29,000
PE (U/g)	2,040
PG (U/g)	5,433
CMC (U/g)	450
Total UP (U/g)	36,473

*The value is approximate and is not a specification.*

**PL** (Pectinlyase): breaks down both the esterified and non-esterified pectins. This is a fundamental activity of the AEB enzymes, since it produces a very rapid clarification speed.

**PE** (Pectinesterase): it supports the PG in breaking down pectin.

**PG** (Polygalacturonase): breaks down only the non-esterified pectins. Its enzymatic activity works in synergy with the PL activity and performs a very important role in determining must clarity and wine filterability.

**CMC** (Cellulase): represents several enzymatic activities which in synergy with pectinase, release colouring matter, tannins and aromatic precursors from the grape skin.

The total measure of enzyme activity, which is indicated for each preparation, can be expressed as:

**Total UP** (U/g), which is the measure of enzyme activity resulting from the sum of PL, PG, PE activities measured individually.

**Endozym ICS 10 Rouge** is purified by the following activities:

**CE** (Cinnamyl Esterase): is an activity found in unpurified enzymes, which causes the formation of volatile phenols, compounds which lend unpleasant aromatic nuances to the wine, which, if present in high concentrations, are reminiscent of horse sweat.





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**Antocyanase:** is a secondary enzymatic activity which causes a partial breakdown of the anthocyanins with a consequent increase of orange hues in the wines. AEB enzymes are obtained from *Aspergillus niger* strains, which do not produce anthocyanase.

## → DOSAGE

Minimum dosage : 0,4 mL per hL or 100 hg of product to be treated.

The minimum recommended dosage for each Endozym product, varies according to the extractive and clarifying intensity required and is mostly influenced by the crushed grapes temperature. The time/temperature ratio (8 - 35°C), shows that for every 5°C drop in temperature, the required period necessary for the enzymatic breakdown is doubled. By using higher dosages, the unfavourable influence of low temperatures can be rectified. For example, if a dose of 1 g/hL at 18°C breaks down pectins in 2 hours, a dose of 4 g/hL will reduce the required time to 30 minutes.

## → INSTRUCTIONS FOR USE

The selected Endozym is diluted directly into 20-30 parts of sulphur-free must or demineralized water or added directly on to the grapes, crushed grapes or must. Use at beginning or during tanks filling.

## → ADDITIONAL INFORMATION

### INFLUENCE OF SO<sub>2</sub>

Enzymes are resistant to SO<sub>2</sub> levels normally used in winemaking, however it is good practice not to put them in direct contact with sulfur solutions.

### ACTIVITY CONTROL

There are various methods for evaluating enzymatic activity. A system utilized by AEB is a method of direct measure, directly linked to the concentration of the PL, PG and PE; the total of the three activities yields the Total UP per gram unity. The determination methods of pectolitic units together with the relative activity diagrams are made available to all technical personnel by AEB.

## → STORAGE AND PACKAGING

Keep **Endozym ICS 10 Rouge** in the original sealed packaging away from light, and in a cool, dry, odour-free place at a temperature below 20°C. Do not freeze. Observe the expiry date on the packaging. Use promptly after opening.

200 g net blisters in 1 kg stands.

