

Pectolitic enzyme for the extraction of aromatic precursors

Endozym[®] *Thiol*

 **AEB**
group

Pectolitic enzyme for the extraction of aromatic precursors

Thiols are sulfured compounds which are found inside grape pulp and skin in the form of odourless aromatic precursors, bound to amino-acids.

During the alcoholic fermentation, sulfured compounds are split by amino-acids through the action of exogenous enzymes or enzymes produced by the yeast, originating aromatic compounds reminiscent of wild flowers, broom, grapefruit, citrus, passion fruit, etc. Some grape varieties, such as Sauvignon Blanc, Chenin Petit, Cabernet Sauvignon, are particularly rich in thiols.

Endozym Thiol is a liquid pectolitic enzymatic preparation with specific secondary activities, facilitating the hydrolysis of grape thiol aromatic precursors, such as 4MMP (4-mercapto-4-methylpentan-2-one), A3MH (3-mercaptoethyl acetate), 3 MH (3-mercaptoethanol), 4MMPOH (4-mercapto-4 methylpentan-1-ol), 3MMB (3-mercapto-3-methylbutan-1-ol).

Endozym Thiol is preferably added during the second fermentation day.

The activity of **Endozym Thiol** depends on the sugar quantity still present during the fermentation stage.

The utilization of **Endozym Thiol** is particularly indicated for the treatment of musts obtained by cold pellicular macerations (that is for the production of prized wines), or of musts destined to the production of young wines, where an immediate aromatic explosion is required.

As thiols are a family of easily oxidizable aromas, we suggest an addition of **Batonnage Plus Elevage** at the first racking - in the case of white wines - to reduce the redox potential and to protect thiols from possible oxidations.

Endozym® Thiol

UP/g 12 000

FDU/g 20°C 9500

USEFUL ENZYMATIC ACTIVITIES

- **PL Pectinlyase**: it breaks down the esterified pectins. This is a fundamental activity of AEB Group enzymes, since it produces a very rapid clarification speed.
- **PG Polygalacturonase**: it 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. The combination of the PL and PG activities enables to obtain a high yield in free run juice in a very quick time.
- **PE Pectinesterase**: it supports the PG in breaking down pectins.
- **CMC Cellulase**: represents several enzymatic activities which, in synergy with pectinase, release coloring matter, tannins and aromatic precursors from the grape skin.
- **BG Betaglucosidase**: it is the association of 4 activities taking part into the release of aromas by sugar groups, to which they are normally bound in a high percentage.

The global enzymatic activity, indicated for each preparation, can be expressed as:

- **UP/g**, is an enzymatic measure derived from the combined activity of the individually measured PL, PG and PE.
- **FD**, is a practical measure based on the determination of degradation times of a standard of pectins, obtained by the apple, at the temperature of 20 or 55°C.

All **Endozym®** enzymatic preparations are purified by the following activities:

- **PE Pectinesterase**: it is responsible for the separation of the pectins' methyl group. In AEB Group enzymes, being based mainly on pectinolytic activity, the PE activity is extremely limited and does not increase the content of methyl alcohol.
- **CE Cinnamyl Esterase**: it 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.
- **Anthocyanase**: it is a secondary enzymatic activity causing a partial degradation of anthocyanins and a consequent increase in wines' orange hues. The enzymes of AEB Group are obtained by strains of *Aspergillus niger* not producing any anthocyanase.

Dosage

The minimum suggested dosage varies according to the desired extraction or clarification intensity and the must temperature. By working with higher doses, it is possible to correct the negative influence of low temperatures.

Suggested dosage

From 2 to 4 mL/hL of must to be treated.

Endozym Thiol is a liquid enzymatic preparation and can be dosed automatically. Add directly into the must by diluting it into the mass.

Shelf life and storage

Endozym Thiol is stable at temperatures under 10°C for at least 2 years.

Activity control

There are various methods for evaluating the enzymatic activity. One of the systems utilized by AEB Group is the method of direct measurement, directly linked to the concentration of PL, PG and PE; the sum of the three activities gives as result the UP per gram unit. The methods for determining the pectolitic units and the relative activity diagrams are made available to all technical personnel by AEB Group.

Packaging

1 kg net bottles in 4 kg cartons.
Prod. code 003615
10 kg net drums.
Prod. code 003614