

EPYCA RED

NATURAL TREATMENT FOR THE PRODUCTION OF RED WINES WITHOUT ADDED SULFITES

EPYCA RED is a natural treatment for production of red wines without added sulfites, designed to integrate in traditional winemaking protocols.

EPYCA RED provides immediate protection from oxidation, together with a prompt stabilization of the aromatic and color components of the must, thus preserving the grape's aromatic and polyphenolic balance without the use of sulfur dioxide.

The outcome is the production of more stable and longer lasting red wines with no added sulfites.

The *EPYCA RED* kit consists of 3 different formulations to be used sequentially and synergistically to replace the sulphur:

EPYCA 1 RED is used during fermentation. Its primary activity is to protect from oxidation and protect anthocyanins. It is added to the must at yeast inoculation or prior to the start of wild yeast fermentation.

EPYCA 2 RED is used during wine aging for its high stabilization and equilibration activity and is added at the end of the malolactic fermentation. *EPYCA 2 RED* refines the wine's organoleptic and preservation characteristics.

EPYCA 3 RED is used before bottling to improve the wine stability and prolong the preservation in time.

DOSAGE

1 *Epyca Red Kit* treats 20 hL (530 gallons) of must/wine.

***EPYCA 1 RED* and *EPYCA 2 RED* use is mandatory.**

***EPYCA 3 RED* use is optional.** It is used to extend the shelf life of the wine or whenever the winemaker believes that the wine does not sufficient anti-oxidative protection.

PRODUCT FOR ENOLOGICAL USE

In accordance with EU Regulation 606/2009, Codex Alimentarius OIV and OIV Practices (Art. 2.1-2.1.7-3.2-3.2.6).

EPYCA RED is made with Oenological Tannin (*OENO 6/2008 and OENO 352/2009 F-COEI-1-TANINS/INS.181*) obtained from natural polyphenolic complexes extracted from grape seeds (*Vitis vinifera*) and wood.

Tannin: The residual amount of tannin, calculated in gallic acid equivalents, shall not exceed 0.8 g/L in white wine and 3.0 g/L in red wine. Only tannin which does not impart color may be used in the cellar treatment of juice or wine. GRAS per FDA advisory opinions dated 4/6/59 and 3/29/60. Total tannin shall not be increased by more than 150 milligrams/liter by the addition of tannic acid (polygalloylglucose).

REGISTERED AT ECOCERT OENOLOGIE FOR USE IN BIOLOGICAL AND ORGANIC WINES

In accordance with Regulation (EC) N. 834/2007 - RUE 203/2012 and NOP Regulation ("Made with ...").

EU LABELING

The EU Commission allows wines which have total SO₂ levels below 10mg/l and have not had any added sulfites to be labeled "**Without Added Sulfites**" or "**No Added Sulfites**", notwithstanding the respect of the EU Regulation 1169/2009 on the voluntary disclosure of alimentary ingredients (Opinion rendered to the Italian Ministry of Food and Agriculture in 2015).

INDICATIVE PROTOCOL FOR 20 HL OF RED WINE WITHOUT ADDED SULFITES

1. HARVEST:

Clusters must be carefully selected by the collector and grapes not good must be separated from the cluster at harvest. Harvest must be performed using only perforated plastic boxes (thoroughly cleaned). Grape must be gently laid down in the box and must absolutely not be crushed. Make sure not to have leaves, soil, branches or grass in the box.

2. LOADING GRAPES:

The transport of the grapes from the vineyard to the cellar must be expeditious but not traumatic. In case of use of closed-bottom boxes, make sure to avoid creation of musts in the loads. Grapes T° should be $\leq 20^{\circ}\text{C}$.

3. DESTEMMING AND CRUSHING:

This operation should be performed at low speed making sure that the grape stalks exits the machine intact, without bruises or fractures. No residues of stalk of brunches must remain on crushed grapes.

4. ADDITION OF EPYCA 1 RED AND ENZYMES:

Add 1 Liter of EPYCA 1 RED each 3'000 kg of pressed grapes adding it onto the crushed grapes while the fermentation tank is being filled.

5. FERMENTATION:

With the first load of grapes add **20 g/hl of red wine yeasts** previously rehydrated, at the end of the mashing operation add the **fermentation activator (20 g/hl);**

- After 1 day of fermentation add **5 g/hl of gallic tannin**
- At the 5th day of fermentation add again **5 g/hl of oak tannin + 20 g/hl of ammonium salts** (ammonium phosphates)
- During the alcoholic fermentation control T° and sugars (Babo or brix).

6. TEMPERATURES:

- From 1st to 3rd day max 28°C
- From 4th day onward max 22°C

7. ECOULAGES:

- **REMONTAGE:** to be started on the 2nd day or in any case after the raising of the cap.
Frequency: 2/4 times a day in the first 2 days. The duration of the operation must be enough to ensure at least one full recirculation in the fermentation tank (verify the hourly flow rate of the pump). At each remontage control T° and sugars (Babo or brix).
Air Remontage: when necessary, let the must fall from the lower nozzle of the fermenter in a big tub and pour it on the marc cap with a pump making sure the must is entirely soaking the cap.
- **DELESTAGE:** from 3rd to 7th day (after the 7th day to be decided according to analytical and sensory testing)
Completely empty the fermenter from the liquid twice a day slamming the wine in a large tub. Wait at least 2 hours then bring the must on the original fermenter while making sure the must has taken as much air as possible and that falls indirectly on the cap through the inner wall of the tank. During this operation remove the seeds using a sieve.
At each delestage control T° and sugars (Babo or brix).

8. RACKING:

Steel racking; add the juice and the first pressed must, stow the pressed in special containers (attention to cleanliness). The date of the racking must be decided according to analytical and sensory testing.

9. 1st TRANSFER AND ADDITION OF EPYCA 2 RED:

3 days after racking decant the wine while eliminating the lees and **gradually add 1 liter of EPYCA 2 RED** for 20 hl of wine + **10 g/hl of tannin for red wine aging** make a vigorous remontage and keep the tank fully filled.

10. WINE PROCESSING AND STABILIZATION:

Apply the standard procedures of stabilization, eventual passage in wood, if desired, and the finishing of the wine without the use of sulfur products.

11. BOTTLING:

Optional addition of 1 liter of EPYCA 3 RED for every 20 hl of wine at bottling before eventual filtration should the enologist desire to extend the preservation of the wine in time or should he estimate that the wine does not have sufficient anti-oxidative protection.

AT BOTTLING CATEGORICALLY OBSERVE ALL STANDARD ANTI-OXIDATIVE PROCESSES (TO AVOID EXTERNAL CONTAMINATION)

This protocol has been compiled and optimized based on tests carried out with various wine producers and the results obtained by the application of *EPYCA RED* in various types of red wines production. This protocol does not replace the know-how and skills of the winemaker.

ADDITIONAL INFORMATION AND SAFETY

Technological effects

- ✓ Sulfur dioxide usage elimination
- ✓ Regularity/stability of the fermentation process
- ✓ Flavor protection
- ✓ Color protection
- ✓ Increase of the tartaric and proteic wine stability
- ✓ Increased flavor persistence stability
- ✓ Increased shelf life

Organoleptic Results

- ✓ Increase equilibrium of taste structure
- ✓ Brilliant color tones
- ✓ Clean, intense and persistent Aroma
- ✓ Flavor soft, voluminous and balanced

Packaging and storage

- ✓ 1 liter (0.23 gallon) HDPE-bottles, 5 liter (1.14 gallon) and 10 (2.27 gallon) HDPE-cans
- ✓ Bottles and cans to be kept properly closed to protect the product from contamination
- ✓ The product has to be stored in dry, ventilated and fresh area. Protect from freezing
- ✓ Store between 10°C (50°F) and 32°C (90°F) to avoid separation and prolong shelf life
- ✓ Stir well before use

Regulatory information/classification and labeling

Chemical substances are classified according to their physical, health, and environmental hazards. The hazards are communicated via specific labels and the Safety Data Sheets (SDS). With the GHS (Global Harmonized System) hazard communication has been standardized worldwide so that the intended audience (workers in production, emergency responders and consumers) can better understand the hazards of the chemicals in use. In the EU, the GHS principles have been laid down in the Regulation (EU) No. 1272/2008 (CLP).

According to this regulation, *EPYCA RED* **is not classified and labeled** for physical-chemical properties, for health effects and for the environment.

MANUFACTURER CONTACTS

BIOMA SA
Via Luserte Sud 8
CH-6572 Quartino, Switzerland

T. +41 91 840 1015
Email: info@bioma.com
Web: www.bioma.com