

PHYTATE

Calcium phytate, bentonite REMOVING IRON FROM RED WINES WITHOUT RISKS

CHARACTERISTICS

- ◆ **PHYTATE**, or phytic acid, is the salt of the inositol hexaphosphate ester.
- ◆ Phytic acid originates from wheat bran or rice.
- ◆ **PHYTATE** is a whitish powder that is difficult to dissolve in water or wine.
- ◆ **PHYTATE** removes iron by forming insoluble complexes.

Because **PHYTATE** reacts only with oxidized iron (Fe^{3+}), **the wine has to be vigorously aerated several times for 48 hours before the treatment** .
If necessary, add 3 or 5 g/hl of SO_2 to the wine before the treatment in order to avoid oxidation phenomena.

- ◆ The **PHYTATE** suspension is added to the wine during pumping over with a metering pump or a **DOSACOL**. To remove the iron efficiently, the product has to be kept in suspension by stirring or pumping over in order to increase contact time and surface.
- ◆ Important wine iron concentrations facilitate iron removal. The appropriate **PHYTATE** addition will depend on the amount of iron present in the wine, but also the maximum iron concentration targeted.

REGULATION

- ◆ Calcium phytate is **only authorized for red wine applications** at the maximum dose of 8 g/hl and under the supervision of an oenologist.

APPLICATION RATES

- ◆ 1 g/hl of **PHYTATE** allows to remove approximately 1 mg/l of iron.
- ◆ To obtain more accurate results, consider only the concentration of ferric iron and not the total iron concentration

For example, for a wine with 16 mg/l of iron:

- to decrease the iron level to 10 mg, use: 6 g/hl of **PHYTATE**
- to decrease the iron level to 7 mg, use: 9 g/hl of **PHYTATE**
- to decrease the iron level to 5 mg, use: 11 g/hl of **PHYTATE**

- ◆ Application limit: 16 g/hl

APPLICATION

- ◆ Sprinkle **PHYTATE** on a small amount of water (100 g/l), which is stirred with an agitator. The addition of citric acid (10 g/l) facilitates the dissolution.
- ◆ Keep in suspension during addition to the tank. Add to the tank using a fining connection (**DOSACOL**).
- ◆ Four or five days after **PHYTATE** treatment, fine with 5 cl/hl of **GELISOL**.

STORAGE CONDITIONS

- ◆ Store full and unopened package away from light, in a dry and odourless area.
- ◆ Open package: use rapidly.

PACKAGING

- ◆ Bag of 1 kg – box of 20 x 1 kg.

DETERMINATION OF RESIDUAL PHYTATE

- ◆ The determination of residual phytate is based on the method reported by M. CORDONNIER in the Annales des Falsifications des Fraudes 1952 p. 424. (available on demand from the **MARTIN VIALATTE – SOEC** laboratory).

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